III

THE INDUSTRIAL OUTLOOK

OTHER types of social change may have a single and isolated significance, but an alteration of the mode in which the masses of the people secure a livelihood carries with it far-reaching modifications of habit, thought, attitude, and organization. It moves, so to speak, through the very center of the line. Psychologists are acquainted with the fact that the organization of activities into any occupation is the foundation of character, the source of conscious interests, and the basis of group action. Whether as farmer or shepherd, as banker or tailor or schoolmaster, a man is ultimately what he does for a living.

Changes in industrial technique and industrial organization can be expected, therefore, to leave no part of the social economy unaffected. Government, commerce, the family, education, the dominant currents of public opinion, all are in some degree contingent upon the methods of industry. The pretense that ideals are independent of the material basis of civilization is contradicted by every moment's observation. Even revolt is a form of dependence.

The industry of China is identical, in its main features, with that of Europe before the industrial revolution. It produces goods by hand-work, under the direction of the merchant-craftsman. The system displays the same distinctions of master, journeyman, and apprentice, the same close relation between economic function and family life, and the same type of combination in guilds for the protection

of common interests and for the promotion of common purposes. Like the European system it permits personal artistic expression and all the variety found in individual production. In spite of the extreme conservatism in Chinese design, one is conscious of this element of personality even in the commonest articles.

There have been and are now many Westerners who cast longing eyes back to the days when things expressed men instead of machines, and who feel that in the destruction of the craft system civilization has lost one of its precious assets. They feel that a linkage was lost between work and art by which the latter lost its vitalizing force and the former the inspiration which had saved it from sordid drudgery. Whether or not these men are right, here is the system as it was, the greatest reservoir of personal skill remaining on the earth. The opportunity is provided at least for consideration of the profit and loss involved in making a change.

The statement of Edward Everett Hale that the "index of civilization is measured by the extent to which the laborer who uses his body is changed into the workman who uses his head" has undoubted application to the great mass of workers. But it is a dubious test of the whole economy of production. Even the more highly industrialized community seems to need a higher proportion of common than skilled labor. And certainly many things which we esteem most highly come through a partnership of hand and imagination. The difficulty with hand-work is that it cannot compete in cheapness of production with the machine. If a population required articles of individual quality the system could be maintained, but this has not proved true of any people. The article of common utility and of lower cost is accepted so continuously that the sense of uniqueness is gradually lost and the machine-made product holds the field.

Besides there are many classes of commodities, probably the majority, which under the hand-work system are no more than reproductions of the same model and could be better and more cheaply produced by machines. The difficulty in saving old or promoting new methods is to establish limits and shadings, and unfortunately the body of the people under the stress of securing a living, are much more sensitive to the gradations of purchasing power than to those of artistic quality. We can at least hope that before the Chinese craftsman becomes a factory operative, the forces that make for personal liberation from conservatism will insure a period of outflowering in the decorative arts.

Most writers on economic change in China take it for granted that the system of hand production, with the guilds and all other appurtenances, will be swept into the discard through the adoption of Western industry. They assume as equally unquestionable the universal acceptance by China of the typical methods and instruments by which Western countries have established their industrial life. Certainly the models presented to Chinese view, and those which are being copied by the Chinese, should satisfy the most confirmed believer in the Western factory system. The approach to Shanghai is like that to a great industrial port of Europe with its forest of factory chimneys, its warehouses, and all the other paraphernalia of an industrial community. But these concessions are in reality transplanted bits of the West, located in China and breeding true to type simply because all the conditions are present which produced and maintained them in their countries of origin. A factory looks simple enough but it is in truth one part in a picture of Western life. When the Chinese copy it on their own ground they face the problem of changing all

the elements of Eastern life to make them consistent parts of the picture.

An example of this difficulty is shown in the following quotation:[1] "It is interesting to note the development in modern flour manufacturing industry in China. Some years ago the mills could not pay dividends. Everything imaginable seemed to throttle this industry. Firstly, bad and expensive transportation; secondly, because the wheat was all produced by small growers, it had to go through the hands of numerous middlemen who collected it in bits from different growers; thirdly, the difficulties and expense in having to go through many different units of measure and currency in passing from one district to another; fourthly, middlemen took the liberty of adding stones and dirt and water, and through a combination forced the mills to buy or boycott them; fifthly, within an area of a few hundred square miles fifty different varieties of wheat were produced; sixthly, the local officials through numerous tax stations taxed the wheat all it would stand and sometimes more and subjected it to vexatious delays; seventhly, no market could be found for bran; eighthly, relatives of directors of the mills had to have jobs at good salaries and with little work; and lastly, a costly system of marketing the finished product added further to the difficulties in paying dividends. The industry has had to weather these handicaps and not all of them have been overcome."

To the Western mind each of the circumstances enumerated above presents itself as an evil, and some of them are certainly hard to defend, but this is principally because they hamper the growth of an industry of our type. Carry the same program of reformation through the whole field of

[1] Julian Arnold, "Changes in the Economic Life of the Chinese People," *The Chinese Social and Political Science Review,* Vol. VI, No. 1.

production, and obviously in order to accommodate Western industry, China must make herself into the replica of a Western country. A country that for thousands of years has grown its grain, ground it, and made it into bread at home, lacks a sense of standardization, a knowledge of marketing and transportation, and in all respects has a long way to go before it can establish a Minneapolis. The question might be raised whether in the long run and under Oriental conditions a Minneapolis can justify itself. May there not be some possible other way to secure equally good results? It seems, however, to be universally accepted that industrial development in China means imitation of the West. "Modern" is the equivalent of "Western." Writers speak of the "long strides" and of "satisfactory progress," meaning the organization of life around the chimneys of factories. There seems to be lacking any critical searching of Western experience for suggestions of method that with us may not be the most useful, or which with us may be merely incipient, but which in China might meet the need without wrenching a whole civilization from its foundations.

There is a wide difference in the whole approach to Western and Oriental industry. In the West a small population set itself to the use and enjoyment of great natural resources. In the East a congested population makes sparing use of proportionally small resources. In the West exploitation is of nature; in the East it is inevitably of people. Western industry carries with it its own characteristic attitude toward the bounty of nature. It is to be used as rapidly as possible, in fact there is a race to see who can most quickly succeed in this process. For example the United States has stripped itself in a few decades of its timber supplies. We have full acquaintanceship with the

consequences of deforestation in erosion and floods as well as the timber famine looming in the future. Yet our civilization has not devised a method of slowing exploitation and securing replacement. An even more striking example is that of petroleum. For a quarter century we have witnessed an orgy of waste of the most precious power asset nature has yet provided. There is no regard for the future, or for the essential value of oil. Our system drives each new field into its fullest production which means its most rapid exhaustion. The products are marketed competitively with values fixed only by the costs of production. The public gets the benefit in the most amazing "joy ride" of all history.

In a congested district the Chinese dig from their hills every root that can serve them for a few minutes as fuel. The timber of the Northern and Western hills is being stripped off to make room for little farms. The floods carry the soil away to silt up the rivers and bring famine to the valleys. On the other hand there is with them no sense of the common good and no large form of public coöperation. In their relation to nature they are now squarely against the elementary conditions of existence. In other words, they have largely run the course of exhausting what nature provides for the mere cost of taking, except for such materials as require the appliances of the West. If they can learn to apply the lesson of their bare hills and their Yellow River to their supplies of coal and iron, they may teach us a principle of conservation which it is to be hoped we will learn before our descendants are as poverty-stricken as Chinese coolies. The lesson is that there is a motive in Western industry which drives toward the swiftest possible exhaustion of resources, whereas China must learn conservation as the very first step on the path of progress.

Industrial history is, like any other history, a record of events that are past. They seem in retrospect to have been inevitable, and were probably so. Historical forces, like other forces, are blind, and grope their way through circumstances to their issues. But suppose we could start again before the industrial revolution; suppose we found our civilization facing the necessity of change in every part of its structure; suppose our more intelligent members, those who form and guide public opinion, had knowledge of all that we have learned about technical equipment and arrangements for its use; would we go willingly forward on the course actually taken, or would we try to separate the good from the harmful? Would we relegate everything medieval to the scrap heap as useless? Would we, if we had the choice, drift again through the nineteenth century, or would we anxiously search the present for new growths that might serve us better? That is the kind of problem that China is facing.

The answer depends upon another question,—whether the factory system which is our typical form of industry is the single form indispensable to any industrial life organized on a large scale. After all, industry means no more, when taken strictly, than the use of power tools instead of hand tools. Other matters, such as the manner in which machines are organized, how they are financed, and how their products are distributed, are matters of social organization determined by factors that arise in any existing social order. They involve processes of government, the legal system, and that multitude of elements which conjoined produce or prohibit a capacity for corporate action. If it is true that industrial organization is at bottom social organization, then the development of Western industry into and through its typical forms, has been determined by the

evolution of Western society. If the form of industry is a social product, then it must be an act of violence to make a social order widely different conform to a particular kind of industrial method.

It would help us in securing a view of facts, if we could free our minds of the cloud of doctrines which has in late years obscured nearly all thinking about industry, and which is little more than the expression of resentment and aspiration, or the rationalization of some existing situation. These nearly all bear upon what is called capitalism. There is nothing in the actual facts to cause trouble. Capital is industrial plant, and the capitalist is the owner of industrial plant. The latter is the assemblage of tools for making some product. A carpenter with his tool chest is a capitalist in the same sense as the owner of a thousand-loom cotton factory.

It may be that the owners of industrial capital use their ownership to restrict the field of opportunity for others; it may be that they combine for unfair purposes; it may be that they acquire natural resources to which they have no proper right. But these are matters of the social connection of industry and not of its ownership and conduct as such. Western industry has centralized ownership and control to a degree that many consider inimical to the general welfare, but this is because it operates in a certain kind of society which has produced, out of its own nature and through its own history, industry of a particular form with a particular set of relationships. It is important that the Oriental student of Western industry attempt to understand this form, and this set of relationships.

Every interpretation must begin with the industrial revolution which took place, as commonly estimated, in the sixty years centering in the first decade of the nineteenth century. Its most usual description is the substitution on a large scale

of power-driven appliances for hand tools. The first great example was the replacement of the hand-loom by the power-loom. The direct effect was the tendency to organize mechanical appliances in units that best accorded with the economical production of steam power. A hand-loom could be operated in any man's home; a power-loom had naturally to be located where power was available. The next direct effect was in the ownership of the appliances. The hand-loom meant production by the worker on his own account and with his own tool. But power appliances were beyond his range of acquisition, and the business had to be carried on by those with sufficient funds. The worker could be rewarded for his part in the process only by a money payment for his time and skill, known as a wage. The tendency toward large units and the tendency toward the wage relationship, came naturally from the use of steam instead of man power.

The other changes that constituted the industrial revolution were indirect and due to the impact of this new mode of production upon the then existent social order in that particular moment of European history. The facts are familiar to every student. The old manorial system which had operated successfully for centuries represented a combination of agriculture and cottage industry.

What destroyed this system and hastened the industrial revolution was the French war. Thus began the depopulation of the English countryside, and the herding of people into the urban industrial districts, which has continued to the present day. The factories, located in terms of facilities for communication and the cheapest generation of power, produced the industrial city, the most characteristic feature of the nineteenth century. For the masses of the population there was one motive only, to secure a livelihood, by

employment for a wage. For the owners of the factories there was one motive only, to secure the maximum profits from these enterprises.

The factory town of the first half of the nineteenth century in which no one was responsible for anything except what he could secure for himself, displayed all the penalties of the subordination of life to livelihood which was entailed by the new industry. Instead of fair, clean country spaces and villages of cottage homes, the people now lived in rows of miserable hovels near the factories or the mouths of coal pits, without drainage, water supply, or any of the other factors of protection and convenience that later made city life endurable. The so-called social problems of the nineteenth century were nearly all due to this rapid urbanization, and the dislocation of the normal processes of life by congestion. It is a mistake to assume that the problems have been solved. Let any town begin rapid industrial expansion and the tenement districts inevitably arise to proclaim that the town has embarked upon a career, not for the betterment of life, but for its degradation in the interest of livelihood.

The feudal system had given England her typical social forms and these were certain to be carried over into industry if the opportunity presented. The factory system became and is still a continuation of feudalism in its essential form of social organization. The mill owners inherited the characteristic attitudes of the old landed aristocracy. The industrial magnates of Manchester claimed the same sort of autonomy for which the nobles had previously fought. The same sort of dominance that formerly pertained to the landowners passed to the great industrial families. It is a part of that curious irony which pursues all prophets, that the

great teaching of Adam Smith should provide convictions, watchwords, and war-cries to this new industrial aristocracy.

When the passage was made from personal ownership of enterprise to company ownership with limited liability, the road was opened wide to all those modern forms of combination with which we are familiar under the name of corporations. Even the measures of legal control to which we have groped our way so clumsily are not, as they have pretended, to preserve competition, but rather to define the limits beyond which corporate action is injurious to the general interest.

The preceding sketch is not a criticism but a description intended to show the evolution in the Western world of the ownership and control of industry and to show how this ownership continued in the hands of a special group, and that this group corresponds in essentials to, and inherits the traditions of the feudal aristocracy. Its inter-adjustments for the maintenance of its interests were as inevitable as those of nobles who had to sink their minor hostilities in order to preserve themselves as a class. I am convinced that without the feudal social forms the industrial revolution could not have taken place with such amazing smoothness and rapidity. It was a fabric of social organization which held all the parts together while nations changed their fundamental methods of livelihood. This explains the ease with which Japan has remodeled her national economy on industrial lines. It was merely a change of fields for the same type of control and the same type of ownership. The shift was from the landed estate to the factory.

The complementary element in the new feudalism of industry was of course the working class. It had already at the end of the eighteenth century reached political emancipation. The new conception of citizenship based upon the

sacredness of individuality had seemed to lift whole populations to a new level of equality, dignity, independence, and opportunity. There seemed no good reason why the principle of *laissez-faire* which was a principle of individual effort should not apply to the humbler as to the higher ranks. The difficulty was that the ranks did then and continued later to exist. When applied to workers in the factory system, competition was simply an adjustment of wage not in terms of the value of services, but in terms of the number of available workers. It became a contest among individuals bidding against each other for the opportunity of employment. One would take less than another simply to avoid the disaster of having nothing to do and therefore no livelihood. It is easy enough to understand that wages would under circumstances of an abundant labor supply gravitate to the level of subsistence. In order to earn enough to maintain the family, the women and children went also into employment. But this simply enabled workers to bid still lower for the chance to live, with the result that the combined earnings went again to the level of subsistence. Thus began that hideous story of long hours and bad conditions, of little children in the mines, of women changed from mothers of families into beasts of burden, until the national conscience expressed itself through the great reformers and in the "Factory Acts." The common man's coveted privilege of independent and individual action thus condemned him to a life only a shade removed from pauperism during the period when the forces and resources of nature were being transformed into wealth beyond the dreams of all the ages.

Viewed as a part of industrial history, the combination of workers for their protection against the evils of individual bargaining, was as inevitable as the combination of owners

to mitigate the penalties of universal competition. The workers regard the enterprise in which they participate with the corresponding attitude, as a thing to which they are to give as little and from which they are to secure as much as possible. The ultimate defect of unionism is disloyalty to the enterprise from which they secure a livelihood. This means restricted production, a constant drive for higher pay, sabotage, and strikes. Instead of an industrial organization being a piece of team work, it merely represents a momentary and unwilling truce of warring elements. The wonder is that industry could survive this universal demoralization of motive. Apparently what kept it going was the stern alternative of work or starve.

The situation just described brought into action certain forces inherent in the modern state. Political democracy really began when the absolute monarchies began the subordination of feudal nobles. There grew and remained a close association between the common man and the national government. It was the government that destroyed serfdom and created citizenship. The common man always represents the preponderance of power when organized and expressing himself through political instruments. It is curious that labor leaders should be constantly exclaiming against government as the tool of capitalists. As a matter of fact, labor had attained a real domination of government in both Great Britain and America by 1900. Labor has had for a quarter century more political power in these countries than it could safely use. For the political aspirations of labor fell early into that curious set of doctrines known as socialism. These doctrines all assumed that the typical industrial form, the factory, was a thing that stood by itself and could be taken over by the simple process of eliminating those who constituted its bone and sinew, its

life blood and its brain. A tool chest cannot work itself, nor can a thousand-loom mill. The profits secured are from the skill and energy of the user, equally in the two cases. For the factory system is a human organization and whenever this is destroyed the technical equipment is no more than a pile of useless junk.

It was this situation of the gradual capture of the powers of government to be used in the industrial conflict, that created the intolerable tension of the years preceding the war. Indeed, war seemed a welcome alternative to the disastrous change that threatened the great nations of Western Europe. Time was necessary for the gradual readjustment which could save the complicated economic machinery from wreckage. But the destructive gregariousness of the workers with a doctrinaire program of socialism and communism for its guidance, showed no inclination to permit a gradual change. To destroy the owners who were at the same time the creators and the necessary operators of the industrial system by legal or by revolutionary method, seemed the one simple step into the millennium. What transpired in Russia had before the war become a menace to the whole of Western Europe.

This tendency of labor to effect a final domination of industry through government, was accentuated by another development of the highest importance. At the beginning of this century, industrial technique had reached a type which was indeed inevitable from the first, but which at that time emerged into dominance of the whole system. This was the automatization of processes of manufacture in the basic industries. The natural history of every machine type shows growth toward the inclusion within the mechanical process of more and more of the functions that had been performed by workers. Once the principle of the manu-

facture of interchangeable parts of any product is accepted, the time must come when the worker is nothing more than a machine tender. Skill is thus removed into the professional field occupied by the engineers, and the workers themselves fall to a common level on which special skill or ability is no longer required. The last guard of skilled workers, the machinists, pitted their strength against the owners of the steel industry at the beginning of the century. The reply was an application in this basic industry of automatic machines which proved that the worker's skill and indeed the worker himself were for the most part unnecessary. This meant that while the workers were winning control of government, they were losing the economic battle. In the following years and especially during the war, every restriction imposed by labor upon industry was met and countered by some new application of the automatic principle. The strongest motive was supplied by conditions during the war to carry this principle forward to complete triumph. Labor forces had to be recruited from what remained from the drafts, older persons, the handicapped, stupid country lads, women and children. Manufacture was nevertheless carried on, and invention endowed the machines with the ability and skill found lacking in the workers. Since the war, labor has used its power over the government of the United States to keep the supply of workers restricted by the immigration laws. But this limitation has merely speeded the further development of automatic machinery. When the post-war building program started, the lack of skill seemed to make the prospect hopeless. But the "war carpenter" was quickly absorbed and all the delicate joinery made at the mills by machinery. A boy from the farm is now able to enter the average factory and learn the required processes in a few days. When the manufac-

ture of electric light globes was started in Shanghai, it was found that Chinese labor was quickly able to carry out the necessary processes. In the United States, labor flows from country to city and back again as periods of prosperity or depression expand or restrict manufacture.

The result of automatization has made possible an indefinite expansion of the production of goods. Factories, whose machines are geared to synchronize the delivery of their special parts of the final product, operate with the precision and economy of single machines. The market has been trained to accept fully standardized articles because of their cheapness. All the world's markets are filled with these supplies and new opportunities for trade are eagerly sought because automatized production is independent of its man power and can produce far beyond the requirements of its home market. The only restriction of this kind of industry is the size of the opportunity to sell.

We come now to an examination of what seem to be the chief emergent tendencies in industrial civilization. This must be an enumeration rather than a full analysis and must be taken as a personal interpretation as many industrial leaders would be inclined to dispute its validity or to assert that it contains a much greater proportion of speculation than of fact. The industrial future seems to me to be forming itself out of the results of the impact of American democracy upon the factory system. And when we speak of American democracy, the term must be taken in a somewhat strict though fundamental sense.

When communication was established across the great Appalachian barrier, the prairie states of the Middle West were occupied by families of New England stock and presently by the more independent population elements from Western and Northwestern Europe. The ideal of

democratic equality which had been written into the constitution, here in the Middle West and here only, became a reality. This was due to the fact that a sufficiency of free land made it unnecessary for any man to work for another. Although the factory system had hardened its form by a century of use and could therefore be expected to invade the new field of opportunity in the Middle West, it met something in the tradition of the region essentially incompatible with its own nature. It remained to be seen which would dominate the other and for a time, due to the importation of peasant labor, it seemed that the factory system would be triumphant. But, one by one, a series of great industries groped their way toward modification, like pioneers, driven onward by dissatisfaction with existing conditions. One has only to mention the experiments of Procter and Gamble, the National Cash Register Company, and the Ford Motor Company to identify the trend toward the re-humanization of the factory system. It was little more than recognition that the working man has a real and not merely incidental part in industry, and that industrial organization is a human affair and not merely one of equipment and industrial rules. Nor were the sons of independent landowners prepared to accept the same rating as the ignorant peasants from Europe. The motive was at work, and the belief is now all but universal that the old-time factory is not the last word in the story of American industry. The circumstances of the war and subsequently, and rapid changes in technology have accentuated this modifying tendency. Even now it seems possible to indicate some of the results that the coming years will bring forth. It is understood that the foregoing account and the following analysis are presented as an effort to discover what aspects of Western industry

can be grafted to existing trunks of Chinese social and commercial organization.

(a) Due to restriction of labor supply and the proportionate reduction of labor cost, wages have mounted steadily since the war period. Employers have made the interesting discovery that within reasonable limits the higher wage scale pays in increased productivity. Although labor began by a foolish waste of its surplus, it is settling to a solid improvement of the standard of living. This means an enormous expansion of consuming power which enables the home market to absorb much if not most of the increased production. Moreover, labor is filling the savings banks and buying securities, which means a larger participation in the ownership of industry. It may well be that the fond hopes of the communists of ownership of industrial plant by workers will see many cases of realization, and this without blood and thunder, watchwords, doctrines, or Trotskis. They will own it in the only way ownership is possible in a civilized community, and that is by paying the price. Along with this goes a steady professionalization of management and technical direction by engineers.

(b) The second tendency is to bring all industrial processes and commercial operations under the control of standards. What has been achieved in this field represents only a beginning. It means a universal coöperation in the use of processes, foreshadowed by the success already attained in interchangeable manufacture. Standards of quality and kinds of materials will be in as full use in a few years as weights and measures are at present. The simple method by which a cotton mill operator can contract for his raw material before it has been grown, is being extended by engineering experts to every type of material and commodity. It was a bold experiment which led our manufac-

turers to attempt the construction of a standardized ship during the war, and not unsuccessful. The mere idea of a standardized ship, which made old ship-builders writhe, shows to what triumphant lengths the principle had gone. It means a whole new basis of confidence due to settled and accepted understandings and rules as to parts, kinds and grades of all things.

(c) The two principles of standardization and automatization opened the way to a gradual discard of the old factory system because they make possible the decentralization of industry. It is being shown that automobile parts can be made in Michigan villages as easily as in a gigantic plant in Detroit. The location of such small branches of industry is of course determined by access to power economically produced. Steam was perhaps the most powerful agent in the creation of the factory system. The range of a single plant was limited by the extent of its transmission shafting. Concentration came from the need of access by the easiest communication to the coal supply, as well as the arteries for the distribution of goods. But power technology has undergone a revolution in the last quarter century. Electrical energy can be transmitted as many miles as steam power tens of feet. There is growing up throughout the industrial districts of the United States a great tissue of power supply so interlinked as to take, according to circumstances, from the cheapest generating source.

This system of super-power is based primarily upon hydro-electric facilities, supplemented by steam generation which will presently take place in proximity to the mines, with the result of conservation of coal and of transportation. This electrical technology makes power available not only in towns and villages, but even in the farmer's household. Production can be as individual as organization and

economy permit. Naturally a small unit system depends upon easy and cheap transportation, and if the railways are specialized, as is apparently the case, into arterial traffic, a flexible system of automobile and electrical haulage is fast supplying local and regional requirements. There is good reason to expect the breaking of great urban industries into village plants, among which coördination will be secured by proper organization instead of mere proximity.

If it is true that better results are derived from the voluntary rather than from the coercive principle, if a man is a better worker with the terror of unemployment removed, then this new connection between industry and rural life must have far-reaching results. The farm is after all a means of security even if, unsupplemented, its returns are small. The farmer, if producing little more than the food for his family, can tide over a period in which the industrial worker may starve. As for the rest, it is a choice between a cottage in the countryside with growing things giving to children a normal life, and a miserable tenement on a dirty and crowded street. The human outlook has become hopeful for an industrial nation for the first time in a century and a half.

(d) Another emergent factor is the trade association in which understandings are reached in matters of mutual interest. It seems indeed a new epoch when men competing in the same field, who a generation ago would have been filled with the deepest suspicion and enmity, can discover grounds for coöperation, can establish rules for conduct of business, and can evolve a code of business ethics to insure fair treatment of each other and of their customers. Moreover, industrial technology has become so specialized that every branch is a field of knowledge and practice by itself. It is being found that improvements of method bring better

results when shared. It is better to have access to a great number of improvements than to hide one's own. In other words, business is rapidly being professionalized. A trade association is approximating the methods of say, a medical association. Through his association the business man enters the great family of industries that so largely constitute the modern community. Such groups play an increasing part in the settlement of disputes between members, and as such disputes so frequently involve technical matters changing too rapidly to be covered by legislation, there is growing up a new type of industrial common law in which the rules and experts of an association adjudicate matters that would be handled clumsily and expensively in courts of law. In brief, the trade association is recovering many of the functions that belonged to the guilds before the industrial revolution.

(e) One other tendency pregnant with possibilities must be noted. This is the growth of producers' coöperation in marketing. Curiously the necessity of standing together has been most fully recognized by the most individualistic members of the American community, the farmers. It was perhaps because the farmer isolated is in a helpless position as salesman of his product. He has been so long robbed by commission agents and other middlemen that it would have been strange if he could not learn the lesson which has brought prosperity to modern Denmark. Not much has been done as yet, but the story of the fruit growers of California is familiar to all. The farm bureaus of the South have successfully applied the coöperative principle to the marketing of cotton. The wheat producers are likely to work out a similar method in the near future. In fact, there is no necessary limit to the use of the principle. It is a matter of organization and of confidence which can

survive the occasional reverses. Naturally coöperative marketing depends upon complete and dependable standardization of products, and if this can be attained in so uncertain a field as the grading of fruit, its application should be simple in the field of manufactured goods.

We are now prepared to attempt a few suggestions, on the basis of the foregoing, as to how the industrial development of China may make most profitable use of Western experience. Again it must be said that this is one personal interpretation and necessarily speculative. From a Westerner's point of view there are in China certain very great difficulties in the way of industrial growth, difficulties that cannot be overcome quickly or by legislative action. The expectation that China can be quickly organized under a strong central government which will function in the manner of a Western republic is illusory. There may be a military dictatorship but universal experience shows that this type of rule is predatory and not conducive to sound economic growth. Failing this factor, corporations in the Western sense cannot thrive under Chinese law within any reasonable time. And it is not only lack of government, but a deficiency of coöperation in public ways that will hinder the building of large corporate enterprises. Industrial growth must be somehow from the ground up, if it is to have any indigenous character. We may expect a large expansion of Western industry in the Treaty ports under foreign protection. But this will not be an industrial development of China, but merely a ring of factories around China. The unfortunate feature is that this spectacle will constantly induce imitation of factory industry by the Chinese, with results that will probably be disappointing.

The second great difficulty is the obvious deficiency of capital. Industrial plant of any kind costs money that must

either be borrowed or else accumulated as surplus earnings. While China has a sufficiency but not excess of basic resources, with the exception of timber of general availability, there are no such materials of easy exploitation and great in proportion to population, as those out of which Western nations created their wealth. The one asset of incalculable value is the labor capacity of the people. But the people are immersed in a poverty inconceivable to a Westerner of the present day. A study made under the International Famine Relief Committee of seven thousand families with the average number of persons per family being 5.24, throws light upon the income of the working class family. These figures are quoted by Mr. Jarvis,[1] who says, "on the basis of a number of recent studies we may conclude that the average annual per capita income of the poorest seventy-five per cent. of the population of China does not exceed ten dollars to fifteen dollars per year in United States currency." He further states that "unquestionably the majority of the population of China are below the poverty line if that line is placed at the per capita annual income of fifteen dollars per year, or a family income of seventy-five or even fifty dollars per year. Probably four-fifths of those above the poverty line consume each year all they produce".

Under these conditions the building of capital by saving can be done only by comparatively few, or else by the use of equipment which assumes capital already supplied. So much of the larger accumulations of wealth has come of the predatory use of public office, that its owners have little knowledge of industrial method. Borrowing from abroad sounds easy, but is in practice very difficult. It is a most

[1] "The Standard of Living in China and Its Meaning," *Journal of Applied Sociology,* Jan.-Feb., 1925.

familiar story that even the Chinese government has never commanded credit without mortgaging some portion of the national income, the collection of which is under the supervision of foreigners. The average money lender secures a rate of interest that would stagger our greediest loan sharks. The supply of capital by loans is a business transaction which must either give an adequate security or else be a speculation with a return that would warrant the gamble. With a ready supply of foreign goods at her gates, China can ill afford an industrial development which would be almost entirely speculative. It is perhaps this circumstance which has favored growth of the idea that a socialistic government could solve the problem. But any student of economics must know that, even if the socialistic state were workable, it is something requiring even more perfect national organization than we have in the West. It does not follow that the government of China may not be a necessary instrument for the supply of credit, but the use of and responsibility for such loans must reach the people in some way which Western experience does not at present indicate.

The third great difficulty in the way of China's industrial growth is lack of transportation facilities. Her few thousand miles of railways are pitifully out of proportion to her size and population. Water transportation is limited to a few regions which have in consequence become overcongested. For most of the country, goods move by the costliest and slowest of all methods—the shoulders of coolies.

If trade were to remain local, all its needs could be met by the handworker. The purpose of power production is to create a surplus of those goods which a locality can manufacture more advantageously and exchange profitably

even with the cost of transportation added. The wide market which represents a pooling of all special advantages, is the basis of prosperity of an industrial nation. Without transportation, the members of each community have to live "by taking in each other's washing".

Railway construction has been attended by all the handicaps which represent the difference between China and a Western country. Her type of government, her social institutions, her provincial factionalism, all militate against this most modern of all instruments of national coöperation. The penalties attached to these disabilities have naturally been heavy. The loan terms, the foreign supervision and all the rest have come of the simple fact that China was undertaking a piece of work suitable to an organization of national life which was not her own.

The complete removal of the difficulties mentioned, and others of similar character, would be a solution of all China's problems of modernization. She must take these first steps as well as she can, dealing practically with the causes of difficulty. Beginning with transportation as precondition of all other developments, it is difficult to see how the first railways could have been constructed except as concessions to foreigners under guarantees of the Chinese government. Private capital on the scale necessary for such undertakings would not become interested without adequate protection. Investment would be even more precarious under existing conditions. The alternative is to build and operate railways as a service of the national government. As railways do not run on sentiment, and as true patriotism looks to the ultimate results, competent foreigners will have to be employed in the management. By the time China can produce her own rails and locomotives she will be producing expert railway administrators. If

surplus earnings were rigidly applied to expansion of the system, and if labor resources such as the present soldiery were being used to prepare roadbed according to properly conceived plans, China would have transportation facilities growing at an astonishing rate, and with very little dependence upon foreign capital. The same statement applies to other basic industries that require large-scale organization. There appears at present to be no other agency than the national government able to create and carry them on, and as government in China is much more likely to develop on a basis of service than of authority, it will find these functions consistent with its own character as well as with the needs of the people.

The supply of capital will probably depend upon the lines of industrial development. As already indicated, it is not likely to be available in the familiar Western forms of investment for the reason that the corporation will not be a safe economic vehicle in China for a considerable period. Moreover, it would merely mean the creation in China of foreign owned and conducted establishments which is not consistent with the best interests of the people. The alternative is to make use of credit through other channels than those of direct investment, which means through government loans. In the present condition of the country, and certainly for the immediate future, government credit placed in corporate undertakings would be largely wasted. No Western country has yet been able to undertake large scale financing of industry with success. In China corporate responsibility does not yet exist, and must make its way through many difficulties created by Chinese tradition. It does not follow that there is no possible way to use industrial credit, but it seems certain that this will have to be done under the peculiar conditions which China provides. These

conditions are found in the existing state of Chinese industry, mainly that of the handworker, of the direct personal transactions and responsibilities of the merchant, of organization beyond the single small shop, in the guild, and the relations of the guilds to city and national authority. So far as I know, no experiment has ever been tried of using a guild as a vehicle of credit, but there seems nothing in its organization to prevent its adaptation to this function. If it can be done, public credit obtained by government borrowings could be canalized to the individual producer in ways provided by the traditional Chinese system, and which are the safest that could be found. And it must always be understood that without safety, capital is not available.

The second method of securing industrial capital, and by far the more important, is by saving. From what has been said about the poverty of the people this would not appear to be a promising method, but as a matter of fact an impoverished people is an excellent field for the creation of industrial capital. The latter is, after all, working plant and much of this is a product of local labor. One is constantly amazed by the low cost of building in China. Structures that would be a very heavy drain upon the assets of a Western business are produced in China at a figure that seems to us ridiculously low. While the rate of wages is rising, the divergence in scale between Oriental and Western labor provides a possibility of profit which, under proper organization, can furnish a sufficiency of working capital. It should be remembered that all capital has to be repaid out of earnings, and if China were completely outfitted with industrial plant this would not only have to come out of earnings, but sufficient funds would have to be saved to effect replacement in a few years. Any efficiently conducted enterprise adjusted to Chinese conditions, returns an

exceedingly high rate of profit due, as indicated, to low labor cost. China might study the recovery of European nations, especially Germany, since the war. The problem of that country was the re-creation of financial resources, and the first step toward its solution was to impoverish the people and then, with lower wage rates, to capitalize the difference. Prosperity will in time return to the whole people in larger measure through industrial operations. The poverty of the people means, of course, low purchasing and consuming power, but, on the other hand, this is now adequate to support a relatively large foreign trade. Just in proportion as Chinese manufacturers provide goods for their own people, will the exports of the country pay for and bring back the machines needed for its work.

The next problem is that of productive organization. Western industry, when it adopted the factory system, destroyed the family as a producing unit, and it is now universally assumed that, apart from agriculture, the family has no other relations than that of consumer. It may well be, however, that our civilization lost rather than gained by this development, obviously due to the larger mobilization of workers required by the factory. There is no essential reason why the great strength of a unified family group should not be applied productively after conditions are so arranged that it can be brought into action. It may well be that in the course of years Western industry will disperse itself in many lines back into association with homes. The availability of power, perfection of standardization, together with cheap and easy transportation, are the attendant necessities.

In China many commercial establishments operating on the "comprador" system make use of family organization. The comprador is made responsible for the conduct of the

business in its native relationships. He is held for results and allowed to choose his own employees. These are usually members of his own clan as being the ones whom he can trust to act for his interest, which in this way becomes the interest of the clan. If he himself is merely an employee in the usual sense, this would be fatal nepotism since the whole group would assist to plunder the enterprise. But, with complete responsibility and accountability, the family group becomes a factor of strength. Whatever its limitations there is as yet in China no other unit of combination with sufficient cohesiveness to stand the stresses of industry. A solution of the problem would come if, instead of breaking the strength of the family in adaptation to industry, this latter could be so modified that it could make use of what in China is overwhelmingly the strongest social unit. The clan is, of course, primarily agricultural, but it does not weaken when it participates in the hand-work production of the city. The solution is therefore a technical one of finding those industrial processes capable of utilization in small units. There is no reason, with respect to human organization, why a great number of small shops should not produce most of the articles now coming from Western factories if the interrelations of these shops could be so managed as to provide for the necessity of specialization and standardized production. If Mr. Ford can disperse the manufacture of automobile parts to numerous small units, there is no basic reason why this should not be done in Chinese villages or in the shops of a Chinese city. It is a question of the machines and a question of combination in a larger unit which can coördinate this part manufacture and place the products on the market. In the West we have, of course, the corporation as a most effective instrument of organization, but this will be lacking in China

for a considerable period. The Chinese guild has the qualities of a closely coherent trade association rather than those of a producing agency, but it is the only form of combination known to the Chinese hand-working merchant, and has enormous traditional strength. It is a question whether the guild will break down in the presence of any machine production or merely in the presence of the factory system as with us. Our trade associations are gravitating toward the status and functions of guilds in such forms of team work as standardization of materials and the arbitration and settlements of disputes among members. It may be that in the future large coöperative groups of manufacturers will tend to replace the corporation. If so, the present Chinese organization is the kind of thing that future industrial enterprises might find of the greatest value. There is no discounting the difficulty of making traditional Chinese social forms adapt themselves to new functions, but this does not appear to be impossible. If the guild can become a dispenser of credit, a coördinator of small specialized manufactures, and at the same time a coöperative marketing association, this would make it possible to industrialize China without the hideous penalties which the factory system will inevitably exact.

To the student who, even though a foreigner, has been able to lay aside his Western preconceptions and view Chinese civilization in its real significance, there is something lamentable in the compulsions which Western industry have brought to bear upon the nation. It is a pity that the whole world must bow the knee to the overlordship of coal and iron. Chinese culture was a thing so complete in itself, so capable of providing high and low alike with realizable and satisfying ends of living that humanity will suffer a loss if it is even partially submerged. On the other hand, no

civilization can afford to refuse the substitution of any tool by a better one, and any civilization requires a larger measure of prosperity for the average of the people than that found in China. No culture can avail if those who would enjoy its benefits have all their energies concentrated upon the avoidance of starvation. The old Chinese system, like the hand-work system of mediæval Europe, has failed to give the people, under congested conditions, any margin of existence free from the struggle to maintain life. Only a few, such as the hereditary European aristocracy, could attain independence, and this only by methods that took from others a part of their production. In China those who are well-to-do frankly secure their means by predatory action upon those below. The modern West has discovered ways by which wealth can be obtained from nature rather than from man, ways by which prosperity can be universalized and all the people can have at least an opportunity to be something more than drudges. If the Chinese must confess that their civilization cannot stand before the instruments of enlarging prosperity, they will be forced to admit that it has no permanent place in the world. My own view is that the excessive conservatism of China is primarily due to poverty. There is little motive to try new methods where a person must feel that to let go the only method in which he is trained, means to drop his hold on existence.

The problem to be solved is how to improve methods of production and exchange by utilization of Western tools without destruction of the social and moral values of Chinese civilization. The danger is that the Western steel mammoth will tread ruthlessly through and upon the products of three thousand years' growth of civilization. The Chinese do not seem possessed of that facile superficial adaptability which makes change so easy in Japan. Change

in China means the breaking of something. Westerners naturally consider all such breakage as a sign of progress—that is, of Westernization. Improvement always means becoming more like us. The shortsightedness which would eliminate all cultural differences makes it hard for China to have real friends in the West. The friend who is always pained when you are not like him may do you more harm than an enemy.

What appears certain is that China is committed to the new course, not with respect to industry alone, but along the whole line. She cannot survive without utilization of Western methods. And this change does not mean taking over a bag of tricks as the mandarins thought, but a profound modification of all the ways of living. China will show us whether it is possible to use machines without losing her own integrity and the values of her own civilization. My own view is that this can be done if China is wise enough to utilize the industrial methods of the twentieth century rather than those of the nineteenth.